Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of	)	
	)	
Expanding Flexible Use in Mid-Band Spectrum Between 3.7 and 24 GHz	)	GN Docket No. 17-183
	)	
	)	
	)	
	)	

COMMENTS OF THE COMPUTING TECHNOLOGY INDUSTRY ASSOCIATION (COMPTIA)

The Computing Technology Industry Association (CompTIA) is a non-profit trade association serving as the voice of the information technology industry. With approximately 2,000 member companies, 3,000 academic and training partners and nearly 2 million IT certifications issued, CompTIA is dedicated to advancing industry growth through educational programs, market research, networking events, professional certifications and public policy advocacy.

CompTIA's membership includes not only ISPs providing wireless broadband service, but also many companies whose products and services rely on their own and their customers' access to wireless broadband. Demand for wireless data is expected to continue to grow, and Cisco's latest Mobile Data Traffic Forecast projects mobile data usage to increase nearly fivefold from 2016 to 2021.[1] There simply isn't enough available spectrum to meet this projected demand for data in the coming years. The FCC has done an outstanding job of making new spectrum available in recent years through its Incentive and AWS Auctions, and through innovative proceedings like the Citizens Broadband Radio Service and Spectrum Frontiers, but there is more to be done.

The mid-band spectrum bands the Commission is proposing to make available in its Notice of Inquiry[2] will prove crucial to the deployment of next generation wireless networks and to connecting Americans in rural areas. Next generation wireless networks are the key to the future of the Internet of Things (IOT) and Smart Cities, which will connect more devices to the internet than ever before, and thus will require more network capacity and faster speeds than our current networks can provide. These networks will need a mix of low-, mid-, and high-band spectrum to meet their full potential, and we hope that the FCC can quickly move this proceeding forward to an NPRM to help make this mid-band spectrum available for both licensed and unlicensed use as soon as possible.

---

[1] Cisco Visual Networking Index: Global Mobile Data Traffic Forecast Update, 2016-2021 White Paper (March 28, 2017), *available at* https://www.cisco.com/c/en/us/solutions/collateral/service-provider/visual-networking-index-vni/mobile-white-paper-c11-520862.html.

[2] *In re* Expanding Flexible Use in Mid-Band Spectrum Between 3.7 and 24 GHz, GN Docket No. 17-183, Notice of Inquiry (2017.)

In the NOI the Commission identified three particular bands of mid-band spectrum (3.7-4.2 GHz, 5.925-6.425 GHz and 6.425-7.125 GHz) for potential wireless use, and the Commission should further explore such use in all three bands in a subsequent NPRM. The FCC should consider enabling flexible use, including terrestrial mobile, in the 3.7-4.2 GHz band, and should explore a variety of techniques including spectrum sharing and incentive auctions. Countries in both Europe and Asia are already looking at this band for future mobile use, and opening up this band in the U.S. will help achieve global harmonization for its usage. Licensed use in the 5.925-7.125 bands, however, may not be feasible due to the existing licensees in these bands, but these bands would be well-suited to unlicensed use. The Commission should thus continue to explore the feasibility of these options in an NPRM.

The 3.7-4.2 GHz band's current licensees simply do not take full advantage of the spectrum's capability. Changes in technology over the years have caused the pool of licensees in this band to dwindle, and the spectrum has become severely underutilized as a result. The existing users could either be incentivized to vacate these bands (a la the Incentive Auction) or could share the spectrum with new wireless users. Either solution would open an opportunity for the Commission to make the 3.7-4.2 GHz band available to new users for flexible use. This large swath of spectrum could be divided into large channels that would provide an incredible amount of bandwidth and could be used for both next-generation networks and improving broadband coverage in sparsely-populated areas.

While licensed wireless use may not work in the 5.925-7.125 bands due to a variety of issues with incumbent licensees, the Commission should pursue this band for unlicensed use, particularly given recent developments in adjacent bands. Last year CompTIA submitted comments supporting unlicensed use in the 5.9 GHz U-NII-4 band[3] (5.850-5.925 GHz), and unlicensed use is already ongoing in the U-NII-3 band (5.725-5.850). If the Commission makes the entire 5.925-7.125 band available for unlicensed use as well, it would open an opportunity for unlicensed channels wider than we've ever seen. These channels could carry immense amounts of data at gigabit speeds.

Opening up all three of these bands for wireless use would make a vast amount of new spectrum available for the next generation of wireless networks. The unique propagation characteristics of mid-band spectrum will help these networks greatly improve their capacity. In the 3.7-4.2 GHz bands, flexible use licenses are key to ensuring the Commission does not preclude innovative uses of this spectrum. Its potential to be used for both fixed wireless and mobile make it an essential component for 5G. The potential for unprecedently-wide unlicensed channels in the 6 GHz band (and thus unprecedented capacity) is why opening up the 5.925-7.125 bands for unlicensed use is such a crucial step towards of the creation of next generation wireless networks.

[3] CompTIA Comments, ET Docket No. 13-49 (2016).